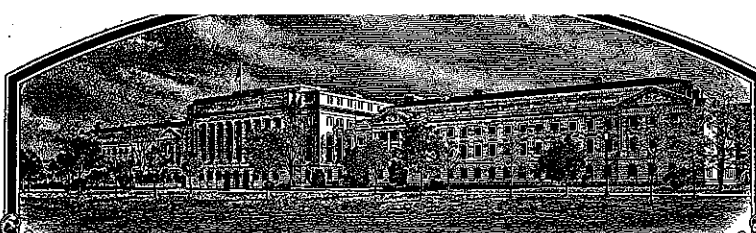


No.

200700423



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

State of Oregon by/through S T B F acting on behalf of
Oregon State University

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER, PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC FURNISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE APPLICANT(S) TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

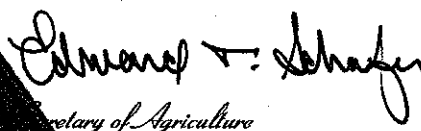
'Tubbs 06'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fifth day of February, in the year two thousand and eight.

Attest:



Commissioner
Plant Variety Protection Office
Agricultural Marketing Service



Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

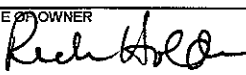
Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER State of Oregon, by and through the State Board of Higher Education on behalf of Oregon State University		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME Tubbs 06		3. VARIETY NAME Tubbs 06	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Office of Technology Transfer, Oregon State University, 312 Kerr Administration Bldg, Corvallis, OR 97331-2140		5. TELEPHONE (include area code) 541-737-0674		FOR OFFICIAL USE ONLY PVPO NUMBER #200700423 FILING DATE August 29, 2007	
		6. FAX (include area code) 541-737-3093			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Non-profit public institution of higher education		8. IF INCORPORATED, GIVE STATE OF INCORPORATION OR		9. DATE OF INCORPORATION	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Sarah E. Mabee, Office of Technology Transfer, Oregon State University, 312 Kerr Administration Bldg, Corvallis, OR 97331-2140				FILING AND EXAMINATION FEES: \$ 4382 DATE 8/29/2007 CERTIFICATION FEE: \$ 768.00 DATE 12/27/07	
11. TELEPHONE (include area code) 541-737-8100		12. FAX (include area code) 541-737-3093		13. E-MAIL	
14. CROP KIND (Common Name) Wheat		16. FAMILY NAME (Botanical) Graminaceae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Triticum aestivum		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow Instructions on reverse)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)			
b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness					
c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety					
d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)					
e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership					
f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit					
g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)					
h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)					
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)			

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER  Rich Holdren Assoc VP for Research		SIGNATURE OF OWNER	
NAME (Please print or type) for Dr. John M. Cassady		NAME (Please print or type)	
CAPACITY OR TITLE Vice-President for Research	DATE 8-24-2007	CAPACITY OR TITLE	DATE

(See reverse for instructions and information collection burden statement)

GENERAL INSTRUCTIONS: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

Plant Variety Protection Office
Telephone: (301) 504-5518 FAX: (301) 504-5291
General E-mail: PVPOmail@usda.gov
Homepage: <http://www.ams.usda.gov/science/pvpo/PVPindex.htm>

SPECIFIC INSTRUCTIONS:

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, Seed Regulatory and Testing Branch, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

First date of sale as Foundation seed: August 31, 2006

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

'Tubbs 06' is a reselection of the variety 'Tubbs', which is protected by US PVP, Certificate No. 200300287

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

PVP Application - Tubbs 06 Soft White Winter Wheat

Exhibit A - Origin and Breeding History

Tubbs 06 is a reselection of the variety Tubbs (PI 629114) with reduced susceptibility to current races of stripe rust (*Puccinia striiformis* Westend.).

Tubbs is a semidwarf soft white winter wheat derived from the cross 'Madsen'/'Malcolm' made in 1990 and released in 2002. Tubbs is an F₃-derived line, which was identified in 1994 as an F₄ headrow and designated as experimental number OR939526 in 1995. In 2004 and 2005, significant levels of stripe rust were observed on Tubbs in production fields and research trials. The increased disease incidence was the result of new aggressive stripe rust races, including Pst-100, Pst-101, Pst-102, and Pst-114, and favorable environmental conditions for the disease. It was determined that Tubbs was heterogeneous for response to stripe rust, with reaction of individual plants ranging from resistant to fully susceptible.

In 2004, a Breeder seed production block of over 1,600 individual headrows was established for Tubbs near Othello, Washington. The block became severely infected by stripe rust in June of 2005. Significant variation in disease response was observed among the headrows. Approximately 1/3 of the 1,600 headrows with susceptible to moderately susceptible response to stripe rust were eliminated. Off-type rows also were eliminated, regardless of response to stripe rust. The remaining 2/3 of the headrows, with disease response ranging from moderately to highly resistant, were bulked to form Breeder seed of Tubbs 06.

Tubbs 06 was evaluated in Oregon and Washington state variety trials in 2006 and 2007 and McGregor Company trials in 2006. Grain samples from the 2006 variety trials were evaluated for end-use quality traits by the USDA-ARS Western Wheat Quality Laboratory in Pullman, WA. Performance. Traits measured include kernel hardness, break flour and total flour yield, flour ash, flour protein water absorption, and cookie diameter.

Evidence of Uniformity and stability

Tubbs 06 has been observed to be uniform and stable. Uniformity and stability were evaluated in a total of 62 replicated variety trials grown in Oregon and Washington in 2006 and 2007.

Tubbs may contain up to 5 red kernels per pound in Breeders, Foundation, Registered, or Certified classes of seed multiplication. Tubbs also may contain up to a total of 1 in 10,000 combined of the naturally occurring variants: plants that are 8 to 15 cm taller or plants with bronze (red or tan) chaff spikes. These variants described are distinct within the variety and are stable and predictable with a degree of reliability comparable to other varieties of the same kind, and within recognized tolerances, when the variety is reproduced or reconstructed, and was originally part of the variety when released.

To further determine variants in kernel color, a phenol staining reaction was determined. It was observed that 42% of the kernels stained are ivory, with 58% being fawn. No brown or brown-black staining kernels were observed.

Exhibit B - Statement of Distinctness

Tubbs 06 is most similar to the commercial variety Tubbs, the variety from which it was derived. There is no significant difference between Tubbs 06 and Tubbs for grain yield, grain test weight, grain protein content, plant height, or days to heading.

Tubbs 06 has reduced susceptibility to current races of stripe rust as compared with Tubbs (see Table XMC0602 in the Exhibit D).

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Wheat (*Triticum* spp.)

NAME OF APPLICANT(S) State of Oregon; Oregon State University	TEMPORARY OR EXPERIMENTAL DESIGNATION Tubbs 06	VARIETY NAME Tubbs 06
ADDRESS (Street and No., or RD No., City, State, Zip Code and Country) c/o Office of Technology Transfer Oregon State University, 312 Kerr Administration Building Corvallis, OR 97331-2140		FOR OFFICIAL USE ONLY PVPO NUMBER #200700423

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., or) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____. Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

- 1 = Common
2 = Durum
3 = Club
4 = Other (Specify) _____

2. VERNALIZATION:

- 1 = Spring
2 = Winter
3 = Other (Specify) _____

3. COLEOPTILE ANTHOCYANIN:

- 1 = Absent 2 = Present

4. JUVENILE PLANT GROWTH:

- 1 = Prostrate 2 = Semi-Erect 3 = Erect

5. PLANT COLOR: (boot stage)

- 1 = Yellow-Green
2 = Green
3 = Blue-Green

6. FLAG LEAF: (boot stage)

- 1 = Erect 2 = Recurved

- 1 = Not Twisted 2 = Twisted

- 1 = Wax Absent 2 = Wax Present

7. EAR EMERGENCE:

Number of Days (Average)

Number of Days Earlier Than * Madsen

Same As *

TubbsNumber of Days Later Than * Stephens

*Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

8. ANTHR COLOR:

- 1 = Yellow 2 = Purple

9. PLANT HEIGHT: (from soil to top of head, excluding awns)

cm (Average)

cm Taller Than

*

Same As

Tubbs

*

cm Shorter Than

*

10. STEM:**A. ANTHOCYANIN**

1 = Absent 2 = Present

B. WAXY BLOOM

1 = Absent 2 = Present

C. HAIRINESS (last internode of rachis)

1 = Absent 2 = Present

D. INTERNODE

1 = Hollow 2 = Semi-Solid 3 = Solid

Number of Nodes

E. PEDUNCLE

1 = Erect 2 = Recurved 3 = Semi-Erect

cm Length

F. AURICLE

Anthocyanin: 1 = Absent 2 = Present

Hair: 1 = Absent 2 = Present

11. HEAD: (At Maturity)**A. DENSITY**1 = Lax
2 = Middense (Laxidense)
3 = Dense**B. SHAPE**1 = Tapering
2 = Strap
3 = Clavate
4 = Other (Specify) _____**C. CURVATURE**1 = Erect
2 = Inclined
3 = Recurved**D. AWNEDNESS**1 = Awnless
2 = Apically Awnletted
3 = Awnletted
4 = Awned**12. GLUMES: (At Maturity)****A. COLOR**1 = White
2 = Tan
3 = Other (Specify) _____**B. SHOULDER**1 = Wanting 2 = Oblique
3 = Rounded 4 = Square
5 = Elevated 6 = Apiculate
7 = Other (Specify) _____**C. SHOULDER WIDTH**1 = Narrow
2 = Medium
3 = Wide**D. BEAK**1 = Obtuse
2 = Acute
3 = Acuminate**E. BEAK WIDTH**1 = Narrow
2 = Medium
3 = Wide**F. GLUME LENGTH**1 = Short (ca. 7 mm)
2 = Medium (ca. 8 mm)
3 = Long (ca. 9 mm)**G. WIDTH**1 = Narrow (ca. 3 mm)
2 = Medium (ca. 3.5 mm)
3 = Wide (ca. 4 mm)**H. PUBESCENCE**1 = Not Present
2 = Present

13. SEED:

A. SHAPE

- ☐ 2 1 = Ovate
2 = Oval
3 = Elliptical

B. CHEEK

- ☐ 1 1 = Rounded
2 = Angular

C. BRUSH

- ☐ 3 1 = Short
2 = Medium
3 = Long
- ☐ 2 1 = Not Collared
2 = Collared

D. CREASE

- ☐ 1 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

- ☐ 2 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. COLOR

- ☐ 1 1 = White
2 = Amber
3 = Red
4 = Other (Specify) _____

F. TEXTURE

- ☐ 2 1 = Hard
2 = Soft
3 = Other (Specify) _____

G. PHENOL REACTION (See Instructions)

- ☐ 1 1 = Ivory
2 = Fawn
3 = Light Brown
- 4 = Dark Brown
5 = Black
- 42% Ivory
58% Fawn

H. SEED WEIGHT

- ☐ 3 ☐ 6 g/1000 Seed (whole number only)

I. GERM SIZE

- ☐ 2 1 = Small
2 = Midsize
3 = Large

14. DISEASE: PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

(0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

- | | |
|---|---|
| <input type="checkbox"/> 0 Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) | <input type="checkbox"/> 0 Leaf Rust (<i>Puccinia recondita</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> 3 Stripe Rust (<i>Puccinia striiformis</i>) | <input type="checkbox"/> 0 Loose Smut (<i>Ustilago tritici</i>) |
| <input type="checkbox"/> 0 Tan Spot (<i>Pyrenophora tritici-repentis</i>) | <input type="checkbox"/> 0 Flag Smut (<i>Urocystis agropyri</i>) |
| <input type="checkbox"/> 0 Halo Spot (<i>Selenophoma donacis</i>) | <input type="checkbox"/> 2 Common Bunt (<i>Tilletia tritici</i> or <i>T. laevis</i>) |
| <input type="checkbox"/> 0 Septoria nodorum (Glume Blotch) | <input type="checkbox"/> 1 Dwarf Bunt (<i>Tilletia controversa</i>) |
| <input type="checkbox"/> 0 Septoria avenae (Speckled Leaf Disease) | <input type="checkbox"/> 0 Karnal Bunt (<i>Tilletia indica</i>) |
| <input type="checkbox"/> 1 Septoria tritici (Speckled Leaf Blotch) | <input type="checkbox"/> 0 Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> 0 Scab (<i>Fusarium</i> spp.) | <input type="checkbox"/> 0 "Snow Molds" |
| <input type="checkbox"/> 0 "Black Point" (Kernel Smudge) | <input type="checkbox"/> 3 Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.) |
| <input type="checkbox"/> 0 Barley Yellow Dwarf Virus (BYDV) | <input type="checkbox"/> 0 Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>) |
| <input type="checkbox"/> 0 Soilborne Mosaic Virus (SBMV) | <input type="checkbox"/> 0 Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>) |
| <input type="checkbox"/> 0 Wheat Yellow (Spindle Streak) Mosaic Virus | <input type="checkbox"/> 0 Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>) |
| <input type="checkbox"/> 0 Wheat Streak Mosaic Virus (WSMV) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |

15. INSECT: (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

- | | |
|--|--|
| <input type="checkbox"/> 0 Hessian Fly (<i>Mayetiola destructor</i>) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> 0 Stem Sawfly (<i>Cephus</i> spp.) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> 0 Cereal Leaf Beetle (<i>Oulema melanopa</i>) | <input type="checkbox"/> Other (Specify) _____ |

15. INSECT: (continued) (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE SPECIFY BIOTYPE (Where Needed)

<input type="checkbox"/> 0	Russian Aphid (<i>Diuraphis noxia</i>)	<input type="checkbox"/>	Other (Specify) _____
<input type="checkbox"/> 0	Greenbug (<i>Schizaphis graminum</i>)	<input type="checkbox"/>	Other (Specify) _____
<input type="checkbox"/> 0	Aphids	<input type="checkbox"/>	Other (Specify) _____

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

Section Numbers Correspond to the Numbers of the Sections on the Form

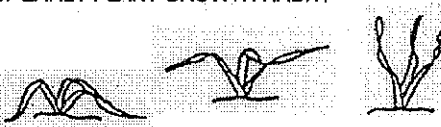

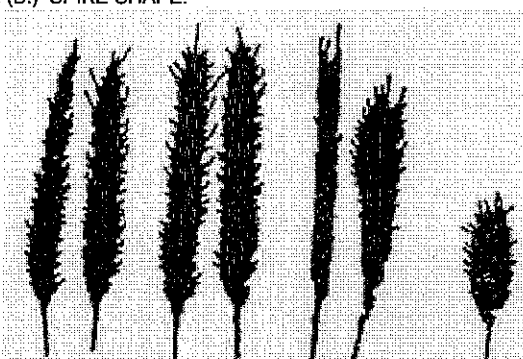
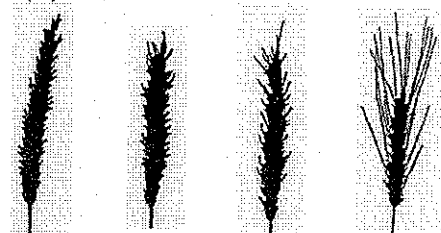
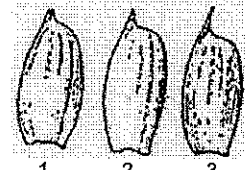
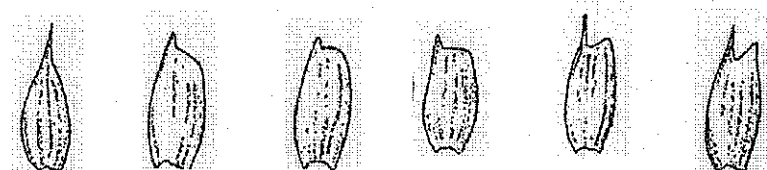

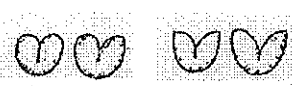
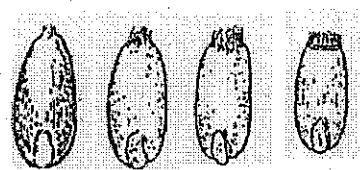
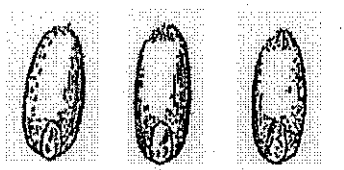
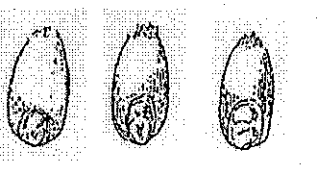


<p>4. EARLY PLANT GROWTH HABIT:</p>  <p>1 Prostrate 2 Intermediate 3 Erect</p>	<p>10. (D.) STEM INTERNODE X-SECTION:</p>  <p>1 Hollow 2 Semi-solid 3 Solid</p>	<p>11. (B.) SPIKE SHAPE:</p>  <p>1 Tapering 2 Oblong 3 Clavate 4 Elliptical</p>	
<p>11. (D.) AWNEDNESS:</p>  <p>1 Awnless 2 Apically Awnleted 3 Awnleted 4 Awned</p>	<p>12. (D.) BEAK SHAPE:</p>  <p>1 Obtuse 2 Acute 3 Acuminate</p>		
<p>12. (C.) SHOULDER SHAPE:</p>  <p>1 Wanting 2 Oblique 3 Rounded 4 Square 5 Elevated 6 Apiculate</p>			
<p>13. (A.) SEED SHAPE:</p>  <p>1 Ovate 2 Oval 3 Elliptical</p>	<p>13. (B.) CHEEK SHAPE:</p>  <p>1 Rounded 2 Angular</p>	<p>13. (C.) BRUSH SIZE</p>  <p>1 Small 2 Midsized 3 Large 4 Collared</p>	<p>13. (C.) BRUSH HAIR LENGTH:</p>  <p>1 Short 2 Medium 3 Long</p>
<p>13. (I.) GERM (EMBRYO) SIZE:</p>  <p>1 Small 2 Midsized 3 Large</p>	<p>13. (D.) SEED CREASE WIDTH:</p>  <p>1 Narrow 2 Mid-wide 3 Wide</p>	<p>13. (D.) SEED CREASE DEPTH:</p>  <p>1 Shallow 2 Mid-Deep 3 Deep</p>	

Exhibit D. Additional Description of the Variety

'Tubbs 06' is a soft white winter wheat (*Triticum aestivum* L.) developed and released by Oregon State University. Tubbs 06 is a reselection of the variety Tubbs (PI 629114) with reduced susceptibility to current races of stripe rust (*Puccinia striiformis* Westend.). Tubbs 06 is agronomically similar to Tubbs and has broad adaptation to wheat production areas of northeast Oregon, southeast Washington, and Idaho.

Breeder and Foundation seed will be maintained by Washington State Crop Improvement Association (WSCIA). Seed of Tubbs 06 has been deposited in the USDA National Small Grains Collection, Aberdeen, Idaho. It is requested that the source of this material be acknowledged in future use by wheat breeding and genetics programs.

Additional Information

Sources of data summarized in the following tables.

Oregon Winter Elite Yield Trials, 2006 and 2007 – total of 20 site/years

Washington State Variety Trials, 2006 and 2007 – total of 35 site years

McGregor Company Variety Trials, 2006 – total of 7 sites

USDA-ARS Stripe Rust Evaluations, 2006 – total of 6 sites

NOTE: No data were obtained for response to stripe rust in 2007. Infection and disease intensity in Oregon and Washington test sites were inadequate to rate the varieties.

TABLE XMC0602. STRIPE RUST INFECTION TYPE (IT) AND SEVERITY (%) ON CULTIVARS AND LINES IN THE WINTER EXTENSION DISEASE AT SPILLMAN FARM (LOC 1), PLANT PATH FARM (LOC 3) AND WHITLOW FARM (LOC 4) NEAR PULLMAN, MT VERNON (LOC 5); WALLA WALLA (LOC 6); AND LIND (LOC 7), WA WHEN RECORDED AT THE INDICATED DATES AND STAGES OF PLANT GROWTH IN 2006 UNDER NATURAL INFECTION.

CLASS	VARIETY	Stripe rust													
		Spillman farm		Plant Path	Whitlow Farm	Mt Vernon		Walla Walla		Lind					
		6/21	7/5	6/20	6/26	5/6	6/6	5/31	6/29	6/29	6/29				
		Flowering	S. dough	Flowering	S. dough	Early boot	Flowering	Flowering	S. dough	S. dough	S. dough				
		IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %	IT %				
SW	TUBBS	8 2	3,8 40	2 1	8 5	8 60	5 40	5 1	5 40	3 20					
SW	TUBBS 06	2 5	2,5 30	2 1	8 10	8 50	5 30	2 1	5 30	0 0					
SW	STEPHENS	2 1	2 5	2 1	2 2	5 20	2 5	2 1	2 2	3 10					
SW	ORCF-101	2 1	3-5 20	2 1	8 20	8 30	8 20	0 0	8 50	5 30					
SW	ORCF-102	2 5	5-8 20	2 1	2 2	8 50	8 30	0 0	8 60	5 20					
SW	BRUNDAGE 96	3 5	3 40	2 1	8 10	8 0	2 10	2 1	5 30	3 50					
SW	WB 528	2 1	2 5	2 1	2 2	8 70	5,8 40	2 1	5 10	0 0					
SW	MADSEN/ROD	2 1	2 5	2 1	2 5	8 30	8 15	0 0	0 0	3 10					
SW	MADSEN	2 1	2 5	2 1	2 5	8 30	8 20	2 1	2 2	0 0					
SW	SIMON	2 1	2 5	2 1	8 10	8 50	5 10	2 1	5 40	0 0					
SW	ELTAN	2 5	2-3 15	2 5	5 10	-	-	2 20	2 20	5 10					
SW	CASHUP	2 1	3 30	2 1	3 10	8 50	2 2	0 0	3 30	3 20					
HR	BAUERMEISTER	2 10	2-3 20	2 20	3 5	8 40	5 5	2 1	3 50	3 30					
HR	BOUNDARY	5 20	3-5 40	2 1	8 10	5 40	3 20	2 5	2 20	3 40					

The Infection type (IT) readings were based on the 0-9 scale, of which, ITs 0-3 are considered resistant, 4-5 intermediate, and 7-9 susceptible.

Entries with two different ITs were likely not uniform. In these cases, the IT of the majority of plants is listed first.

Entries that had different ITs among the locations likely have race-specific resistance. Such difference was more remarkable between the eastern and western sites.

The Mt Vernon location allows us recording stripe rust in the early and late plant growth stages.

Entries that had higher ITs and severities in the first note and lower ITs and severities in the second note likely have high-temperature adult-plant (HTAP) resistance

Two year summary of grain yield and agronomic data for Tubbs 06 and Tubbs (2006 and 2007)

Grain Yield

Variety	Oregon Winter Elite Yield Trial		Washington State Variety Trials		McGregor Co. Variety Trials	2-yr Mean
	2006	2007	2006	2007	2006	
	12 site	8 site	17 site	18 site	7 site	62 sites
	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac
TUBBS	87.3	100.5	115.4	99.2	89.0	100.4
TUBBS-06	91.0	102.0	111.8	95.6	91.1	99.5

Grain Test Weight

Variety	Oregon Winter Elite Yield Trial		Washington State Variety Trials		2-yr Mean
	2006	2007	2006	2007	
	9 site	7 site	17 site	18 site	51 site
	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac
TUBBS	58.89	59.93	58.86	58.40	58.9
TUBBS-06	59.12	60.16	58.68	58.40	58.9

Grain Protein

Variety	Oregon OWEYT		Washington State Variety Trials		2-yr Mean
	2006	2007	2006	2007	
	11 site	7 site	18 sites	18 site	54 site
	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac
TUBBS	10.0	9.3	10.7	11.0	10.5
TUBBS-06	9.9	9.4	10.8	11.3	10.6

Plant Height

Variety	Oregon Winter Elite Yield Trial		Washington State Variety Trials	2-yr Mean
	2006	2007	2006	
	9 site	8 site	18 sites	35 site
	inches	inches	inches	inches
TUBBS	34.06	37.50	36.45	36.1
TUBBS-06	34.50	38.10	36.63	36.4

2007 Oregon Soft White Winter Wheat Elite Yield Trials

Grain Yield Summary

Variety	Class	Corvallis bu/ac	Lexington bu/ac	Moro - Kaseberg bu/ac	Moro bu/ac	North Powder bu/ac	Pendleton- Ruggs bu/ac	Hermiston bu/ac	Madras bu/ac	8-Site Mean bu/ac
TUBBS	SNW	115.4	46.1	61.3	81.9	66.0	114.4	152.5	167.7	100.5
TUBBS-06	SNW	121.1	47.1	62.3	94.1	69.3	124.9	146.8	151.5	102.0
Site Average		120.6	43.7	66.9	87.8	63.9	117.7	139.5	145.6	
LSD (0.05)		18.1	5.2	11.2	23.1	16.7	10.7	17.5	16.3	
CV (%)		9.2	7.3	9.8	13.0	12.9	6.5	7.6	6.7	

Grain Test Weight Summary

Variety	Class	Corvallis lbs/bu	Lexington lbs/bu	Moro - Kaseberg lbs/bu	Moro lbs/bu	North Powder lbs/bu	Pendleton- Ruggs lbs/bu	Hermiston lbs/bu	7-Site Mean lbs/bu
TUBBS	SNW	61.2	59.3	58.5	60.7	60.0	59.1	60.7	59.9
TUBBS-06	SNW	61.1	60.1	58.0	61.7	60.0	59.4	60.8	60.2
Site Average		60.8	59.6	59.7	61.4	60.1	59.8	61.1	60.4
LSD (0.05)		0.7	0.3	1.7	1.1	0.7	1.4	0.9	
CV (%)		0.8	0.5	1.7	0.9	0.6	1.6	0.9	

Grain Protein Summary

Variety	Class	Corvallis %	Lexington %	Moro - Kaseberg %	Moro %	North Powder %	Pendleton- Ruggs %	Hermiston %	7-Site Mean %
TUBBS	SNW	8.1	9.2	10.7	8.4	9.0	10.6	9.4	9.3
TUBBS-06	SNW	8.0	9.5	10.3	8.9	8.6	10.9	9.6	9.4
Site Average		8.7	9.9	10.0	8.5	9.2	10.5	9.5	9.5
LSD (0.05)		1.0	1.6	2.0	1.1	1.4	1.2	0.7	
CV (%)		6.9	10.1	10.4	6.2	7.4	8.4	4.4	

2007 Oregon Soft White Winter Wheat Elite Yield Trials

Plant Height Summary

Variety	Class	Corvallis Inches	Lexington Inches	Moro - Kaseberg Inches	Moro Inches	North Powder Inches	Pendleton- Ruggs Inches	Hermiston Inches	Madras Inches	8-Site Mean Inches
TUBBS	SNW	43.7	34.3	36.0	35.4	33.0	36.5	40.0	42.0	37.5
TUBBS-06	SNW	45.1	35.3	35.4	36.8	33.5	37.3	41.0	42.3	38.1
Site Average		42.6	32.0	33.3	35.3	30.6	36.0	39.4	40.7	36.2
LSD (0.05)		2.1	1.9	3.1	4.1	2.6	2.0	1.9	2.2	
CV (%)		3.0	3.7	5.8	5.7	4.3	3.9	2.9	3.3	

Heading Date Summary

Variety	Class	Corvallis DOY	Lexington DOY	Hermiston DOY	Madras DOY	4-Site Mean DOY
TUBBS	SNW	144.0	137.3	135.7	154.0	142.8
TUBBS-06	SNW	143.7	134.7	135.7	154.0	142.0
Site Average		142.8	136.4	136.5	154.4	142.5
LSD (0.05)		1.1	2.5	2.0	1.8	
CV (%)		0.6	1.1	0.6	0.7	

200700423

2007 WSU SOFT WHITE WINTER WHEAT TRIAL SUMMARY

VARIETY NAME (SWH Club Varieties in Italics)	ALMIRA	DAYTON	MAYVIEW	LAMONT	LIND	PULLMAN	REARDAN	RITZVILLE	HARRINGTON	LACROSSE	ST JOHN	COLTON	ANATONE	MOSES LAKE	BICKLETON	CRESTON	FAIRFIELD	ST. ANDREWS	VARIETY MEAN
--	--------	--------	---------	--------	------	---------	---------	-----------	------------	----------	---------	--------	---------	------------	-----------	---------	-----------	-------------	-----------------

YIELD (BU/A)

TUBBS	116.8	123.5	133.8	99.1	46.6	155.8	76.0	44.1	66.0	79.8	169.6	113.2	69.6	144.0	50.3	146.7	110.0	41.4	99.2
TUBBS 06	116.6	116.7	129.6	106.6	45.4	148.1	78.9	40.2	57.2	77.5	161.4	113.8	62.6	140.5	45.2	135.4	105.2	40.4	95.6
CV (%)	8.9	8.1	7.2	8.9	10.5	8.8	10.6	14.8	7.5	10.8	8.5	6.1	11.4	9.0	15.5	6	7.3	16.8	
LSD (0.10)	11.8	10.7	10.2	9.7	5.5	14.6	9.7	7.6	5.2	8.8	15.0	7.8	9.0	13.5	7.6	9.3	8.9	7.9	
Average	114.3	112.6	120.5	93.2	44.6	141.8	77.8	43.9	59.6	70.0	150.8	109.0	67.3	128.6	41.9	133.6	104.5	40.2	

STATISTICS

TEST WEIGHT (LBS/BU)

TUBBS	53.7	60.5	59.9	58.5	60.3	60.1	56.8	60.1	59.5	56.7	60.0	60.2	57.1	56.7	55.8	59.2	58.3	57.8	58.4
TUBBS 06	53.4	60.7	60.8	59.0	60.1	59.8	57.9	60.0	59.2	56.3	59.4	60.1	57.1	56.7	55.1	58.9	58.7	57.5	58.4
CV (%)	2.7	0.5	0.7	0.6	0.6	0.9	1.6	0.7	0.5	2.0	1.7	1.0	1.8	2.2	2.2	0.8	1.2	1.1	
LSD (0.10)	1.7	0.4	0.5	0.4	0.5	0.7	1.1	0.5	0.3	1.3	1.2	0.7	1.2	1.5	1.4	0.5	0.9	0.7	
Average	55.1	61.1	60.7	59.3	60.8	60.1	59.0	60.7	59.7	56.7	59.9	60.7	58.0	57.5	57.1	59.9	59.8	58.6	

STATISTICS

PROTEIN (%)

TUBBS	14.3	11.0	10.2	9.5	11.6	10.2	13.5	11.4	9.5	11.2	11.9	10.0	11.5	12.6	10.7	9.1	10.2	9.8	11.0
TUBBS 06	14.3	11.2	10.1	9.3	12.4	10.6	13.4	11.9	9.9	11.4	12.3	9.8	12.5	12.8	11.0	8.8	10.4	11.5	11.3
CV (%)	4.5	3.6	6.0	9.0	3.4	7.8	2.8	6.9	5.5	6.7	4.0	5.7	7.7	4.2	5.4	7.6	3.6	8.2	
LSD (0.10)	0.8	0.5	0.7	1.0	0.5	1.0	0.4	1.0	0.6	1.0	0.6	0.7	1.1	0.6	0.7	0.8	0.4	1.1	
Average	14.3	11.4	10.3	9.7	12.2	10.9	13.5	12.0	10.0	12.3	12.5	10.1	12.6	13.3	11.4	9.3	10.2	11.1	

STATISTICS

Paired comparisons between Tubbs and Tubbs 06 for grain yield in 2006.

2006 Oregon Winter Elite Yield Trial

Selection	Arlington		Lexington		Moro-Ksbrg		Moro		Hermiston		Condon		Pendleton		Corvallis	
	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk
TUBBS	53.97	8	47.32	3	78.66	33	75.87	12	118.96	8	68.7	1	107.1	7	117.12	7
TUBBS-06	53.91	9	46.5	8	83.53	24	76.65	9	110.58	26	63.81	3	102.85	13	125.73	1
CV	10		7		7.8		8.15		6.1		11.1		9.5		5.5	
LSD 0.05	8.4		4.2		8.9		8		9.2		8.1		10.9		7.7	

Selection	Madras		CBARC No-Till		Ontario		Hermiston OR-ID Irr.	
	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk
TUBBS	120.2	21	53	35	93.18	30	113.02	5
TUBBS-06	133.3	2	63.3	16	110.04	2	121.31	1
CV	9.2		10		9.2		11	
LSD 0.05	12.2		10		12.2		14.9	

2006 McGregor Variety Trials

	Adams		Dayton		Waitsburg		Lacrosse		Pomeroy		Prairie		Tammany	
	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk
TUBBS	120	4	81	8	111	9	68	14	70	6	62	14	111	9
TUBBS-06	121	3	83	4	113	7	80	1	69	9	59	19	113	7
CV	2.2		5.1		3.7		6.4		4.2		5.8		9.3	
LSD 0.01	3		4.8		5		5.2		3.4		4.3		14	

Paired comparisons between Tubbs and Tubbs 06 for grain yield in 2006.

2006 WSU Variety Trials

	Almira		Anatone		Colton		Connell		Creston		Dayton		Dusty		Fairfield	
	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk
TUBBS	153.2	3	86.7	32	128.8	2	79.6	2	113.6	22	140.1	5	83.3	5	122.9	11
TUBBS-06	150.6	7	84.5	37	121.2	6	68.7	32	116.6	11	142.4	3	80.9	11	132.3	1
CV	6.8		9.2		9		7.2		9.2		7.2		6.3		7.9	
LSD 0.1	10.9		9.4		11.7		5.8		11.8		11		5.7		10.9	

	Farmington		Harrington		Lamont		Mayview		Moses Lake (Irr.)		Pullman		Ritzville		St. John	
	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk	Yld	Rk
TUBBS	147.1	2	78.5	2	124.1	15	94.6	6	158.6	5	159.5	8	67.6	11	162.2	1
TUBBS-06	140.2	10	70.3	19	117.6	27	89	17	148.3	21	159.7	7	59.2	35	154.9	4
CV	5.9		7.9		8		8		9.1		7.3		12.1		6.3	
LSD 0.1	9.1		6.3		10.8		7.6		15.3		12.8		8.8		10.3	

	Bickleton	
	Yld	Rk
TUBBS	61.7	7
TUBBS-06	63.3	5
CV	14.7	
LSD 0.1	9.7	

Paired comparisons between Tubbs and Tubbs 06 for test weight in 2006.

2006 Oregon Winter Elite Yield Trial

Selection	Arlington lb/bu	Lexington lb/bu	Moro-Ksbrg lb/bu	Moro lb/bu	Hermiston lb/bu	Condon lb/bu	Pendleton lb/bu	Corvallis lb/bu
TUBBS	59.7	60.8	57.6	60.3	59.5	61.2	56.9	60.6
TUBBS-06	59.9	60.5	58.1	60.8	60	60.7	56.6	60.9
CV	1.1	4.4	1.7	1.2	0.8	1.9	1.5	1.5
LSD 0.05	1.4	5.3	2	1.5	0.9	2.5	1.8	1.8

Selection	CBARC No-Till lb/bu
TUBBS	53.4
TUBBS-06	54.6
CV	2.5
LSD 0.05	2.3

Paired comparisons between Tubbs and Tubbs 06 for test weight in 2006.

2006 WSU Variety Trials

	Almira	Anatone	Colton	Connell	Creston	Dayton	Dusty	Fairfield
	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu
TUBBS	60.3	57.2	59	61	58.7	59.5	59.2	59.3
TUBBS-06	60	57.2	58.5	60.6	58.7	59.8	59.3	59.1
CV	0.8	0.8	1.5	0.6	0.9	0.8	1.1	0.6
LSD 0.1	0.6	0.5	1.1	0.4	0.6	0.5	0.7	0.4

	Farmington	Harrington	Lamont	Mayview	Moses Lake (Irr.)	Pullman	Ritzville	St. John
	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu	lb/bu
TUBBS	57.6	59.7	59.5	56.7	57.9	58.9	60.3	60.6
TUBBS-06	57.5	59.3	59.2	57.2	57.2	58.9	59.9	60.6
CV	1.8	0.7	0.7	1.1	2.2	1	0.9	0.6
LSD 0.1	1.2	0.5	0.5	0.8	1.5	0.7	0.7	0.5

	Bickleton
	lb/bu
TUBBS	55.3
TUBBS-06	54.6
CV	2.7
LSD 0.1	1.8

Paired comparisons between Tubbs and Tubbs 06 for heading date in 2006. Days from 1/1.

2006 Oregon Winter Elite Yield Trial

Selection	Lexington	Hermiston	Corvallis
TUBBS	142	143	146.3
TUBBS-06	142	143	146

2006 WSU Variety Trials

	Almira	Anatone	Colton	Connell	Creston	Dayton	Dusty	Fairfield
TUBBS	157.3	155.3	155.6	138.8	154.3	142.5	150	157.5
TUBBS-06	157.3	155.6	155.3	139.9	155.8	143.3	150	157.9

	Farmington	Harrington	Lamont	Mayview	Moses Lake (Irr.)	Pullman	Ritzville	St. John
TUBBS	159.8	143	153.3	160.3	143	159.4	152.3	148.6
TUBBS-06	159.8	144.9	153.6	160.6	144.5	159.4	152.6	149.8

	Bickleton
TUBBS	159.3
TUBBS-06	160

Paired comparisons between Tubbs and Tubbs 06 for plant height in 2006. Days from 1/1.

2006 Oregon Winter Elite Yield Trial (cm)

Selection	Arlington cm	Lexington cm	Moro-Ksbrg cm	Moro cm	Hermiston cm	Condon cm	Pendleton cm	Corvallis cm
TUBBS	81	62.6	90	82.5	94.8	78	98.8	110
TUBBS-06	80	60.1	92.5	85	96.5	84	100	110

CBARC No-Till	
Selection	cm
TUBBS	81
TUBBS-06	80

2006 WSU Variety Trials (inches)

	Almira in	Anatone in	Colton in	Connell in	Creston in	Dayton in	Dusty in	Fairfield in
TUBBS	36.8	37	40.3	28.5	38.3	41.5	31.3	33
TUBBS-06	37.8	37	41.5	28.3	38.8	41.3	31.5	34.5

	Farmington in	Harrington in	Lamont in	Mayview in	Moses Lake (Irr.) in	Pullman in	Ritzville in	St. John in
TUBBS	42	34.5	38	34.3	37.3	35.3	33.3	43.5
TUBBS-06	43	34.3	38	35.5	39	35.8	32.3	43.5

Bickleton	
	in
TUBBS	28
TUBBS-06	28

End-use quality analyses of Tubbs 06 and Tubbs from 2006 OWEYT grain samples.

VARIETY	LOCATION	Test wt lb/bu	SKCS Hardness units	Kernel wt. gm/100 0	Kernel diamter mm	Grain protein %	LDOPA abs.	Flour yield %	Break flour yield %	Flour ash %	Flour protein %
TUBBS	CORVALLIS	62.5	47.7	46.6	3.06	9	0.757	73.1	49.6	0.44	6.7
TUBBS	HERMISTON	61.1	49.6	43.8	2.99	9	0.72	73.4	49.9	0.5	7.4
TUBBS	KASEBERG	59.2	52.8	36.1	2.74	10.5	0.606	69.6	48	0.44	8.4
TUBBS	LEXINGTON	61.6	49.2	39.7	2.9	8.9	0.918	72	49.1	0.46	7.4
TUBBS	MORO	60.7	54	37.4	2.77	9.5	0.845	70.6	48.5	0.45	7.9
TUBBS	PENDLETON	57.5	48.3	31.5	2.59	13.8	1.021	70.6	50.8	0.45	11.5
TUBBS06	CORVALLIS	62.7	47.4	46.7	3.04	8.8	0.866	72.7	49.2	0.43	7.2
TUBBS06	HERMISTON	61.4	46.8	44.3	3.02	9.5	0.748	73.5	49.8	0.47	7.5
TUBBS06	KASEBERG	59	52.7	35.1	2.73	10.4	0.685	70	48.5	0.43	8.4
TUBBS06	LEXINGTON	61.7	47	40.5	2.93	8.6	0.66	72.1	49.3	0.46	7.5
TUBBS06	MORO	61.5	50.6	38.4	2.83	8	0.639	71	49.6	0.45	6.1
TUBBS06	PENDLETON	57.1	47.2	32.2	2.62	14.5	0.98	70.1	50.6	0.45	12.2
TUBBS	mean	60.4	50.3	39.2	2.8	10.1	0.81	71.6	49.3	0.46	8.2
TUBBS06	mean	60.6	48.6	39.5	2.9	10.0	0.76	71.6	49.5	0.45	8.2
Probability that means are not different		0.91	0.28	0.91	0.84	0.91	0.57	0.98	0.72	0.48	0.95
		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

End-use quality analyses

VARIETY	LOCATION	FSV	FSDS	Carbonate SRC	Water SRC	Sucrose SRC	Mix absorption	Mixograph type	Cookie diameter
		cc	cc	cc	cc	cc	%	WWQL	cm
TUBBS	CORVALLIS	16.4	79.5	80.6	60	97.3	57.4	3M	9.06
TUBBS	HERMISTON	17	44.7	77.2	57.4	95.9	54.5	2M	9.3
TUBBS	KASEBERG	17.3	105.6	78.2	59.9	104.8	56	2M	8.84
TUBBS	LEXINGTON	17.6	65	73.5	58.5	94.3	52.8	2M	8.9
TUBBS	MORO	17.6	50.5	76.6	58.2	100.8	54.8	3M	8.94
TUBBS	PENDLETON	15.2	128.8	75.5	55.8	100.3	58.4	1M	8.6
TUBBS06	CORVALLIS	17.3	73.7	77.2	59.1	97.9	57.5	3M	9.31
TUBBS06	HERMISTON	17.6	53.4	76	56.7	93.4	54.6	1M	9.36
TUBBS06	KASEBERG	18.2	105.6	78.2	60.1	103.8	55	2M	9.19
TUBBS06	LEXINGTON	17.3	67.9	75.1	57.5	96.3	52.7	2M	8.89
TUBBS06	MORO	19.5	36	74.7	57.7	97.8	52.5	5M	9.13
TUBBS06	PENDLETON	15.2	114.3	76.2	56.9	103.2	59.4	1M	8.66
TUBBS	mean	16.9	79.0	76.9	58.3	98.9	55.7	2.17	8.9
TUBBS06	mean	17.5	75.2	76.2	58.0	98.7	55.3	2.33	9.1
Probability that means are not different									
		0.35	0.84	0.55	0.73	0.94	0.80	0.81	0.32
		NS	NS	NS	NS	NS	NS	NS	NS

#200700423

Peterson, Jim

From: Sabry Elias [Sabry.Elias@OSCS.ORST.EDU]
Sent: Friday, August 24, 2007 2:19 PM
To: Peterson, Jim
Subject: Phenol test Results

Hi Jim,

The Color reaction of the Tubbs 06 sample you submitted yesterday is as follows:

42% Ivory; 58% Fawn

The test is based on four-100 seed replicates of the sample you submitted. The was conducted according to the procedure described at the AOSA Cultivar Purity Testing Handbook, 1991.

Regards.

Sabry

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) State of Oregon acting by and through the State Board of Higher Education on behalf of Oregon State University	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER Tubbs 06	3. VARIETY NAME Tubbs 06
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) Office of Technology Transfer 312 Kerr Administration Building Oregon State University Corvallis, OR 97331	5. TELEPHONE (Include area code) (541) 737-8100	6. FAX (Include area code) (541) 737-3093
	7. PVPO NUMBER	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒

YES

☐

NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒

YES

☐

NO

10. Is the applicant the original owner?

☒

YES

☐

NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐

YES

☐

NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐

YES

☐

NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

Tubbs 06 is a reselection of the variety Tubbs (PVP Certificate No. 200300287) which is owned by the State of Oregon acting by and through the State Board of Higher Education on behalf of Oregon State University.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

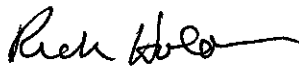
To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S) State of Oregon acting by and through the State Board of Higher Education on behalf of Oregon State University	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) Office of Technology Transfer 312 Kerr Administration Building Corvallis, Oregon 97331	TEMPORARY OR EXPERIMENTAL DESIGNATION Tubbs 06
NAME OF OWNER REPRESENTATIVE (S) Sarah E. Mabee	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) Office of Technology Transfer 312 Kerr Administration Building Corvallis, Oregon 97331	VARIETY NAME Tubbs 06 FOR OFFICIAL USE ONLY PVPO NUMBER #200700423

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.


Signature

8-28-07
Date